



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

after the vessels have been injected; but this appearance the author ascribes wholly to extravasation in consequence of rupture of the vessels.

November 24, 1831.

JOHN WILLIAM LUBBOCK, Esq. V.P. and Treasurer,
in the Chair.

A paper was read, entitled, "Facts adduced in refutation of the assertion that the Female *Ornithorhynchus Paradoxus* has *Mammæ*." By Sir Everard Home, Bart. F.R.S.

The author, after a minute examination, in which he was assisted by Mr. Hartshorn and Mr. Bauer, of three specimens of female ornithorhynchi sent to him by Governor Darling, could not discover *mammæ*, although these parts are represented as existing by Professor Meckel.

A paper was next read, entitled, "On an Inequality of long Period in the Motions of the Earth and Venus." By George Biddell Airy, A.M. Plumian Professor of Astronomy and Experimental Philosophy in the University of Cambridge.

The author had pointed out, in a paper published in the Philosophical Transactions for 1828, on the corrections of the elements of Delambre's Solar Tables, that the comparison of the corrections of the epochs of the sun and the sun's perigee, given by the late observations, with the corrections given by the observations of the last century, appears to indicate the existence of some inequality not included in the arguments of those tables. As it was necessary, therefore, to seek for some inequality of long period, he commenced an examination of the mean motions of the planets, with the view of discovering one whose ratio to the mean motion of the earth could be expressed very nearly by a proportion of which the terms are small. The appearances of Venus are found to recur in very nearly the same order every eight years; some multiple, therefore, of the periodic time of Venus is nearly equal to eight years. It is easily seen that this multiple must be thirteen; and consequently eight times the mean motion of Venus is nearly equal to thirteen times the mean motion of the earth. The difference is about one 240th of the mean annual motion of the earth; and it implies the existence of an inequality of which the period is about 240 years. No term has yet been calculated whose period is so long with respect to the periodic time of the planets disturbed. The value of the principal term, calculated from the theory, was given by the author in a postscript to the paper above referred to. In the present memoir he gives an account of the method of calculation, and includes also other terms which are necessarily connected with the principal inequality. The first part treats of the perturbation of the earth's longitude and radius vector; the second of the perturbation of the earth in latitude; and the third of the perturbations of Venus depending upon the same arguments.

The computations of the quantities themselves being effected by means of algebraical equations of great complexity, and of numerical calculations of considerable length, which afford in themselves no ready means of verifying their accuracy, the author has been under the necessity of examining closely every line of figures before he proceeded to another. Upon the whole he is certain that there is no error of importance in the numbers he obtained; and that the only probable source of error is the inevitable rejection of figures beyond a certain place of decimals.

In concluding this investigation, the most laborious, probably, that has yet been made in the planetary theory, he remarks that the term in question is a striking instance of the importance to which terms, apparently the most insignificant, may sometimes rise. As an illustration of the magnitude of the errors which might under other circumstances have arisen from the neglect of this term, he further observes, that if the perihelion of Venus and the earth had opposite longitudes, and if the line of nodes coincided with the major axis, the eccentricities and inclination having the same values as at present, the coefficient of the inequality in the epoch would be $8''.9$, and all the other terms would be important. A very small increase of the eccentricities and inclination would double or treble these inequalities.

Anniversary Meeting, Nov. 30.

HIS ROYAL HIGHNESS THE DUKE OF SUSSEX, K.G.,
President, in the Chair.

The President delivered the following Address:—

Gentlemen,

The period, provided by our Statutes, has again come round, when your Officers and Council must be reconstituted by your authority; and I feel myself called upon, in conformity with the custom which has been sanctioned by my predecessors, to address you upon such subjects connected with the Royal Society and its administration, as the events of the last year may have rendered proper to be noticed by me. But before I touch upon other topics, I feel anxious to say a few words upon my own position in the Society, and my views respecting it.

The Chair of the Royal Society has been filled by a rare succession of illustrious men, and I feel proud that I have been judged worthy, upon any grounds, to occupy a situation which has become dignified by its association with the names of those who have conferred so much honour upon our country. It is indeed true that I can enter into no competition with such predecessors, as respects scientific knowledge, which my early education, my public occupations, and even the duties of my rank, have prevented me from cul-